WE CLAIM:

1.   A method for transmitting wireless signals in a CDMA distributed antenna system, the method comprising the steps of:

    providing a plurality of antennae, where each antenna is configured to transmit a wireless signal to a receiver;

5   identifying one of the plurality of antennae to transmit the wireless signal to the receiver; and

    transmitting the wireless signal by the one of the plurality of antennae to the receiver.

2.   The method of Claim 1, wherein the step of identifying one of the plurality of antennae further comprises the step of selecting one of the plurality of antennae based on a reliability of the one of the plurality of antennae to transmit the wireless signal to the receiver.

3.   The method of Claim 2, wherein the step of selecting one of the plurality of antennae based on a reliability of the one of the plurality of antennae to transmit the wireless signal to the receiver further comprises the steps of:

    collecting and storing reliability data for transmissions from each of the plurality of

5 antennae to the receiver; and

    selecting one of the plurality of antennae based on the stored reliability data.

4.   The method of Claim 1, wherein the step of identifying the one of the plurality of antennae comprises selecting the one of the plurality of antennae based on proximity to the receiver.

5.   The method of Claim 1, wherein the step of identifying the one of the plurality of antennae further comprises the steps of:

monitoring a reverse communication link between the receiver and each one of the plurality of antennae thereby determining a signal strength of each incoming reverse communication link at each antenna; and

selecting one of the plurality of antennae based upon the signal strength of the reverse communication link.

6.   The method of Claim 5, wherein the step of selecting one of the plurality of antennae based upon the signal strength of the reverse communication link further comprises the step of selecting one of the plurality of antennae where the signal strength of the reverse communication link meets a preferred signal strength.

7.   The method of Claim 1, wherein the step of identifying the one of the plurality of antennae further comprises the step of calculating a distance between each one of the plurality of antennae and the receiver thereby establishing a set of distances.

8.   The method of Claim 7, wherein the step of identifying the one of the plurality of antennae further includes the step of selecting one of the plurality of antennae corresponding to the smallest distance among the set of distances.

9.   The method of Claim 1, wherein the step of identifying the one of the plurality of antennae includes the step of determining the availability of the plurality of antennae, wherein an available antenna is an antenna not currently in use.

10.   The method of Claim 9, wherein the step of identifying the one of the plurality of antennae includes selecting one of the plurality of antennae based on the availability of each one of the plurality of antennae.

11.   A CDMA distributed antenna system comprising in combination:

a plurality of antennae, where each antenna is configured to transmit a wireless signal;

a pathway manager coupled to the plurality of antennae, the pathway manager configured to identify one of the plurality of antennae to transmit the wireless signal; and

a receiver configured to receive the wireless signal transmitted by the one of the plurality of antennae.

12.   The system of Claim 11, wherein the pathway manager is a device selected from the group consisting of a base transceiver station (BTS), a distributed antenna system controller (DAS), and the receiver.

13.   The system of Claim 11, wherein the pathway manager identifies the one of the plurality of antennae by selecting the one of the plurality of antennae based on a reliability of the one of the plurality of antennae to transmit the wireless signal.

14. The system of Claim 11, wherein the pathway manager identifies the one of the plurality of antennae by selecting the one of the plurality of antennae based on proximity to the receiver.

15. The system of Claim 11, wherein the pathway manager identifies the one of the plurality of antennae by monitoring a reverse link communication between the receiver and each antenna thereby determining signal strengths of incoming wireless signals at each antenna.

16. The system of Claim 15, wherein the pathway manager selects the one of the plurality of antennae with a preferred signal strength.

17. The system of Claim 11, wherein the pathway manager identifies the one of the plurality of antennae by calculating a distance between each antenna and the receiver thereby establishing a set of distances.

18. The system of Claim 17, wherein the pathway manager selects the one of the plurality of antennae corresponding to the smallest distance among the set of distances.

19. The system of Claim 11, wherein the pathway manager identifies the one of the plurality of antennae by selecting the one of the plurality of antennae based on an availability of the plurality of antennae, wherein an available antenna is an antenna not currently in use.

20. A method of optimizing transmission of wireless signals to a receiver in a CDMA distributed antenna system comprising the steps of:

providing a plurality of antennae, wherein the plurality of antennae are configured to transmit a wireless signal;

5   selecting one of the plurality of antennae to transmit the wireless signal to the receiver;

transmitting the wireless signal to the receiver using the selected one of the plurality of antennae; and

disabling unselected ones of the plurality of antennae from transmitting to the receiver.

21.   The method of Claim 20, wherein the step of selecting one of the plurality of antennae further comprises the steps of:

measuring a signal strength of a communication link to the receiver for each one of the plurality of antennae; and

selecting one of the plurality of antennae having the highest measured signal strength.

22.   The method of Claim 21, wherein the step of measuring a signal strength of a communication link to the receiver for each one of the plurality of antennae further comprises measuring a signal strength of a reverse link from the receiver to each one of the plurality of antennae.

23.   The method of Claim 21, wherein the step of measuring a signal strength of a communication link to the receiver for each one of the plurality of antennae further comprises measuring a signal strength of a communication signal from each one of the plurality of antennae to the receiver.

24.   The method of Claim 20, wherein the step of selecting one of the plurality of antennae further comprises the steps of:

maintaining data relating to reliability of transmissions to the receiver for each one of the plurality of antennae; and

selecting one of the plurality of antennae having the highest level of reliability.

25.   The method of Claim 20, wherein the step of selecting one of the plurality of antennae further comprises the steps of:

maintaining data relating to a proximity to the receiver for each one of the plurality of antennae; and

selecting one of the plurality of antennae having the closest proximity to the receiver.

26.   The method of Claim 25, wherein the step of maintaining data relating to a proximity to the receiver for each one of the plurality of antennae includes maintaining data relating to interference between each one of the plurality of antennae and the receiver.

27.   The method of Claim 20, wherein the steps of the method are performed in a device selected from the group consisting of a BTS, a DAS, and the receiver.

28.   A pathway manager comprising in combination:

a processor;

an antenna database coupled to the processor, the antenna database containing information of each antenna within a plurality of antennae of an antenna system;

5   a data storage medium coupled to the processor;

an interface coupled to the processor, the antenna database, and the data storage medium, the interface configured to communicate with the plurality of antenna; and

a set of machine language instructions stored in the data storage medium executable by the processor in response to a request from a base transceiver station (BTS) to perform functions

10   including:

accessing the antenna database to determine selection characteristics of the plurality of antennae and;

identifying one of the plurality of antennae to transmit a wireless signal to a receiver based on geographic proximity of the one of the plurality of antennae to the receiver and based on the selection characteristics.

29.   The pathway manager of Claim 28, wherein the selection characteristics are selected from the group consisting of availability of use, reliability of receiving the wireless signal, and expected transmission signal strength.

30.   The pathway manager of Claim 28, wherein the interface is selected from the group consisting of a transmitter, a coaxial cable, an Ethernet cable, and a T1 line.